

CLAIMS

1. A humidity controller apparatus for removing moisture from or adding moisture to process subject air alternately using a first adsorption element (81) and a second adsorption element (82) by distributing first and second process subject air in a hollow casing (10) with first and second fans (95, 96) and switching distribution routes for the process subject air in the casing (10), wherein:

the casing (10) has a flat rectangular shape and has first and second inlet openings (13, 15) and first and second outlet openings (14, 16);

10 a suction-side wall (12), which is one of side walls of the casing (10), has first and second inlet openings (13, 15) which are provided side by side in a longitudinal direction of the suction-side wall (12);

the casing (10) has a filter room (44) extending along the suction-side wall (12), the filter room (44) being in communication with the first and second inlet openings (13, 15); and

the filter room (44) contains an air filter (71, 76, 77) for filtering process subject air introduced through the inlet openings (13, 15).

2. A humidity controller apparatus for removing moisture from or adding moisture to process subject air alternately using a first adsorption element (81) and a second adsorption element (82) by distributing first and second process subject air in a hollow casing (10) with first and second fans (95, 96) and switching distribution routes for the process subject air in the casing (10), wherein:

the casing (10) has a flat rectangular shape and has first and second inlet openings (13, 15) and first and second outlet openings (14, 16);

a suction-side wall (12), which is one of side walls of the casing (10), has first

and second inlet openings (13, 15) which are provided side by side in a longitudinal direction of the suction-side wall (12); and

the casing (10) contains an air filter (71, 76, 77) along the suction-side wall (12) for filtering process subject air introduced through the inlet openings (13, 15).

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3. The humidity controller apparatus of claim 1, wherein the filter room (44) contains an air filter (71) for filtering the process subject air introduced through the inlet openings (13, 15), and the air filter (71) has a partitioning member (72) for partitioning the filter room (44) into a first portion (45) which is in communication with the first inlet opening (13) and a second portion (47) which is in communication with the second inlet opening (15).

4. The humidity controller apparatus of claim 2, wherein the air filter (71) includes a first filter portion (73) for filtering process subject air introduced through the first inlet opening (13), a second filter portion (74) for filtering process subject air introduced through the second inlet opening (15), and a partitioning member (72) for preventing air passing through the first filter portion (73) and air passing through the second filter portion (74) from mixing with each other, the first filter portion (73), the second filter portion (74), and the partitioning member (72) being integrally formed.

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5. The humidity controller apparatus of claim 3 or 4, wherein at least one of side walls of the casing (10) which are adjacent to the suction-side wall (12) has a filter inspection lid (131) for allowing the air filter (71) to be removed out of the casing (10).

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6. The humidity controller apparatus of claim 5, wherein the air filter (71) is attached onto an inner surface of the filter inspection lid (131).

7. The humidity controller apparatus of claim 3 or 4, wherein the air filter (71) is detachable from the casing (10) by being slid in a direction parallel to the suction-side wall (12).

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8. The humidity controller apparatus of claim 1, wherein:

the filter room (44) is partitioned into a first portion (45) which is in communication with the first inlet opening (13) and a second portion (47) which is in communication with the second inlet opening (15); and

10 the first portion (45) contains a first air filter (76), and the second portion (47) contains a second air filter (77).

15 9. The humidity controller apparatus of claim 2, wherein the casing (10) contains a first air filter (76) for filtering process subject air introduced through the first inlet opening (13) and a second air filter (77) for filtering process subject air introduced through the second inlet opening (15).

20 10. The humidity controller apparatus of claim 8 or 9, wherein the casing (10) has a pair of side walls which face each other and are adjacent to the suction-side wall (12), each of the pair of side walls having a filter inspection lid (136, 137) which allows the air filter (76, 77) to be removed out of the casing (10).

25 11. The humidity controller apparatus of claim 8 or 9, wherein the casing (10) has side walls adjacent to the suction-side wall (12), the side walls including a pair of side walls which face each other, one of the pair of side walls having a first filter inspection lid (136) which allows the first air filter (76) to be removed out of the casing (10), and the other of

the pair of side walls having a second filter inspection lid (137) which allows the second air filter (77) to be removed out of the casing (10).

12. The humidity controller apparatus of claim 11, wherein the first air filter (76) is
5 attached onto an inner surface of the first filter inspection lid (136), and the second air filter (77) is attached onto an inner surface of the second filter inspection lid (137).

13. The humidity controller apparatus of claim 8 or 9, wherein each of the air filters (76,
77) is detachable from the casing (10) by being slid in a direction parallel to the suction-
10 side wall (12).